

The Space Environment Sensor Suite for NPOESS

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Abstract. The Space Environment Sensor Suite (SESS) is a set of instruments of the National Polar-orbiting Operational Environmental Satellite System (NPOESS) that takes measurements to produce space environment data products. The SESS includes a complement of instruments that provide data on particles, fields, aurora, and the ionosphere. The SESS team consists of the NPOESS Integrated Program Office (IPO), Northrop Grumman Space Technology (NGST) – the prime contractor for NPOESS, Ball Aerospace & Technologies Corp. (BATC) – lead systems integrator for SESS, key instrument/algorithm suppliers, and the science community advisors who represent the future users of SESS data products. This team has developed a baseline design and constellation that address the NPOESS requirements for the SESS-specific Environmental Data Records (EDRs). The foundation for those requirements is the subject of a companion paper. These EDRs are allocated to Particles & Fields instruments and Optical instruments that are distributed on the multi-orbit NPOESS system architecture to satisfy the user community's performance and coverage needs. This paper will present details on the SESS sensors, the architecture and its expected performance, and will outline the SESS procurement and launch schedule.